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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/844,714	04/27/2001	Neal R. Butler	L0501/7033	9562

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EXAMINER

GAGLIARDI, ALBERT J

ART UNIT	PAPER NUMBER
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2878

DATE MAILED: 03/10/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/844,714

Applicant(s)

BUTLER, NEAL R.

Examiner

Albert J. Gagliardi

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12 April 2002.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,6 and 13-66 is/are pending in the application.
- 4a) Of the above claim(s) 21-36 and 45-66 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,6,13 and 37 is/are rejected.
- 7) ☒ Claim(s) 14-20 and 38-44 is/are objected to.
- 8) ☒ Claim(s) 13-66 are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 07 May 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Comment on Submissions

1. The response filed 4 December 2002 has been entered.

Election/Restrictions

2. Newly submitted claims 21-36 and 45-66 are directed to an invention that is independent or distinct from the invention originally claimed for the following reasons:

New claims 13-18, and 37-42 (Group I) are drawn to methods and apparatus for compensating a radiation sensor for changes due to a temperature variation including a specific dynamic calibration parameter adjusting means classified in at least class 250, subclass 252.1

New claims 19-36 and 43-64 (Group II) are drawn to methods and apparatus for compensating a radiation sensor for changes due to a temperature variation including a generically claimed dynamic operating or calibration parameter adjusting means, in combination with temperature modifying means, classified in at least class 250, subclass 352.

New claims 65 and 66 (Group III) are drawn to methods for compensating a radiation sensor for changes due to a temperature variation by dynamically adjusting a bias parameter in order to effect temperature control, classified in at least class 250, subclass 339.03.

The inventions are distinct, each from the other because of the following reasons:

Inventions II and I are related as combination and subcombination. Inventions in this relationship are distinct if it can be shown that (1) the combination as claimed does not require the particulars of the subcombination as claimed for patentability, and (2) that the subcombination has utility by itself or in other combinations (MPEP § 806.05(c)). In the instant case, since claims to both the subcombination and combination are presented and assumed to be

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patentable, the omission of details of the claimed subcombination provide evidence that patentability of the combination as claimed does not rely on the details of the specific subcombination as claimed. The subcombination has separate utility such as for improving infrared imaging capabilities regardless of whether or not there is any temperature stabilization or temperature control.

Inventions I, II and III are related as subcombinations disclosed as usable together in a single combination. The subcombinations are distinct from each other if they are shown to be separately usable. In the instant case, inventions I, II and III each have separate utility such as for improving infrared imaging cameras by reducing errors caused by temperature drift (Group I), expanding the useful operating temperature range of imaging cameras (Group II), and reducing errors caused by self-heating effects (Group III).

3. Because these inventions are distinct for the reasons given above and have acquired a separate status in the art as shown by their different classification, restriction for examination purposes as indicated is proper.

4. Since applicant has received an action on the merits for the originally presented invention (Group I), this invention has been constructively elected by original presentation for prosecution on the merits. Accordingly, claims 21-36 and 45-64 withdrawn from consideration as being directed to a non-elected invention. See 37 CFR 1.142(b) and MPEP § 821.03.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

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(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claims 1, 6, 13 and 37 are rejected under 35 U.S.C. 102(b) as being anticipated by Parrish *et al.* (US 5,756,999).

Regarding claim 1, *Parrish* discloses (**Figs. 25-28 and 50-51**) a method of compensating a radiation sensor for changes in at least one operational characteristic of the sensor due to a temperature variation of the sensor (abstract) comprising: dynamically adjusting at least one least one calibration parameter (a gain term) (col. 23, lines 51-54) which is incorporated into the dynamic bias correction (see generally col. 15, line 15 to col. 16, line 25) associated with the radiation sensor based on the temperature of the sensor (col. 15, lines 15-43).

Regarding claim 13, *Parrish* discloses that the sensor includes a plurality of radiation detectors (abstract, see also Figs 36-39), wherein the at least one operation characteristic of the sensor that changes due to the temperature variation of the sensor includes at least one of offset error variation and a gain variation associated with the plurality of radiation detectors (col. 7, line 37 to col. 8, line 2; such variations are also inherent physical properties of such radiation detectors), wherein the at least one calibration parameter associated with the sensor includes at least one of at least an offset error value (30) for each radiation detector and a gain value (29) for each radiation detector (3) and wherein the dynamic adjustment includes at least one gain value (i.e., gain term incorporated into bias value) based on the temperature variation of the sensor to compensate for the gain error variation.

Regarding claims 6 and 37, the recited apparatus claims are suggested by the method of claims 1 and 13 and are rejected accordingly.

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Response to Arguments

7. Applicant's arguments with respect to claims 1 and 6 have been considered but are moot in view of the new ground(s) of rejection.

8. Applicant's remaining arguments are moot in view of the election by original presentation requirement.

Allowable Subject Matter

9. Claims 14-20 and 38-45 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Regarding dependent claims 14 and 38, the prior art (*Parrish*, for example) does not disclose or fairly suggest that the dynamically adjusted calibration term (which is incorporated into the input bias correction) is applied to the output signal of the radiation sensor. The examiner notes (as also pointed out by applicant) that the additional calibration parameters that are applied to the output signal of the radiation detector are not dynamically adjusted.

Regarding dependent claims 15 and 39, the prior art (*Parrish*, for example) does not disclose or fairly suggest that the dynamically adjusted calibration term (which is incorporated into the input bias correction as a predetermined correction coefficient) is applied to the calibration parameter as a compensation function.

The remaining claims are allowable on the basis of their dependency.

The examiner notes that claims 19-20 and 43-44, which are not considered as part of the originally elected claims (properly a part of non-original Group II) will be rejoined and allowed

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on the basis of their dependency on allowable claims 18 and 42, respectively, if the claims are rewritten in accordance with the above objection.

Conclusion

10. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Albert J. Gagliardi whose telephone number is (703) 305-0417. The examiner can normally be reached on Monday thru Friday from 9 AM to 5 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David P. Porta can be reached on (703) 308-4852. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9318 for regular communications and (703) 872-9319 for After Final communications.

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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.



Albert J. Gagliardi
Examiner
Art Unit 2878

AJG
March 6, 2003